What is claimed is:

1. A TiAl based alloy having a microstructure in which lamellar grains having a mean grain diameter of from 1 to 50μm are closely arranged, with an α_2 phase and a γ phase being laminated therein alternately.

2. A TiAl based alloy according to claim 1, having a microstructure in which lamellar grains having a mean grain diameter of from 1 to 50μm are closely arranged, with an α_2 phase and a γ phase being laminated therein alternately, and a matrix comprising a β phase filling the gaps between the lamellar grains.

3. A TiAl based alloy according to claim 1, comprising 40 to 48 atomic % of Al, 5 to 10 atomic % of one or more kinds selected from Cr and V, with the remainder being Ti and inevitable impurities.

4. A TiAl based alloy according to claim 1, comprising 38 to 48 atomic % of Al, 4 to 10 atomic % of Mn, with the remainder being Ti and inevitable impurities.

5. A TiAl based alloy according to claim 3, containing one or more kinds of elements selected from the group consisting of C, Si, Ni, W, Nb, B, Hf, Ta, and Zr in an amount of from 0.1 to 3 atomic % in total.

6. A TiAl based alloy according to claim 4, containing one or more kinds of elements selected from the group consisting of C, Si, Ni, W, Nb, B, Hf, Ta, and Zr in an amount of from 0.1 to 3 atomic % in total.

7. A TiAl based alloy according to claim 1, wherein a Charpy impact test value specified in JIS-Z2242 is 3J or higher at room temperature.

8. A production method of a TiAl based alloy comprising:
a step for holding a TiAl based alloy material containing Al at least in an amount of from 43 to 48 atomic % in an equilibrium temperature range of an α phase; and
a step for subjecting the TiAl based alloy material held at that temperature to high-speed plastic working, while cooling the material to a predetermined working terminal temperature.

9. A production method of a TiAl based alloy according to claim 8, wherein said holding temperature is from 1230°C to 1400°C.

10. A production method of a TiAl based alloy according to claim 8, wherein said working terminal temperature is 1200°C.

11. A production method of a TiAl based alloy according to claim 8, wherein said TiAl based alloy material is held at

said holding temperature with the material being covered with a thermal insulation material, and then said TiAl based alloy is subjected to high-speed plastic working, together with said thermal insulation material.

12. A production method of a TiAl based alloy according to claim 8, wherein a forging method is used as said high-speed plastic working.

13. A production method of a TiAl based alloy according to claim 8, wherein said high-speed plastic working is performed at a cooling speed of from 50 to 700°C/min.

14. A production method of a TiAl based alloy comprising: a step for holding a TiAl based alloy material containing Al at least in an amount of from 38 to 44 atomic % in an equilibrium temperature range of a (α + β) phase; and a step for subjecting the TiAl based alloy material held at said temperature to high-speed plastic working, while cooling said material to a predetermined working terminal temperature.

15. A production method of a TiAl based alloy according to claim 14, wherein said holding temperature is from 1150°C to 1300°C.

16. A production method of a TiAl based alloy according to claim 14, wherein said working terminal temperature is 1000°C.

17. A production method of a TiAl based alloy according to claim 14, wherein a forging method is used as said high-speed plastic working.

18. A production method of a TiAl based alloy according to claim 14, wherein said high-speed plastic working is performed at a cooling speed of from 50 to 700°C/min.

19. A blade using the TiAl based alloy according to claim 1.